CLAIMS

What is claimed is:

1. A control system for remotely activating an automatically opening door comprising:

a plurality of transmitters held by different people, each transmitter transmits control signals;

a plurality of doors at least some of which being mounted in different buildings, each of said doors including an actuator for automatically opening and closing said door and a receiver electrically coupled to said actuator for receiving control signals from said transmitters and activating said actuator to open said door in response to the receipt of said control signals,

wherein any one of said transmitters may be used to open any of said doors.

2. The control system of claim 1, wherein the control signals transmitted from said transmitters are RF signals.

3. The control system of claim 1, wherein the control signals transmitted from said transmitters are rolling code signals.

4. The control system of claim 3, wherein said rolling code control signals transmitted from said plurality of transmitters are encrypted and decrypted using a common predetermined manufacturer's key.

5. The control system of claim 4, wherein said common predetermined manufacturer's key is verified by the receiver using specified bits of a serial number as discrimination bits, the serial number being included in the rolling code signal transmitted from one of said transmitters.

6. The control system of claim 3, wherein said rolling code signals transmitted from said plurality of transmitters each include a 32-bit serial number.

7. A receiver for an automatic door assembly having a door and an actuator coupled to the receiver for automatically opening and closing the door in response to an activation signal, said receiver comprising:

a receiver circuit for receiving a rolling code control signal from a remote transmitter; and

a control circuit coupled to the actuator and said receiver circuit, wherein said control circuit is configured to decrypt any received rolling code control signal using a specific public key and to determine whether any received consecutive hopping codes are decrypted that correspond to consecutive codes of a rolling code algorithm, said control circuit supplies the activation signal to the actuator when any received consecutive hopping codes are decrypted that correspond to consecutive codes of the rolling code algorithm.

8. The receiver of claim 7, wherein the control signals received by said receiver circuit are RF signals.

9. The receiver of claim 7, wherein said control circuit decrypts the rolling code control signals received by said receiver circuit using a common predetermined manufacturer's key.

10. The receiver of claim 9, wherein said common predetermined manufacturer's key is verified by the receiver circuit using specified bits of a serial number as discrimination bits, the serial number being included in the rolling code signal transmitted from the remote transmitters.

11. The receiver of claim 7, wherein said rolling code signals received by said receiver circuit each include a 32-bit serial number.

12. An automatic door assembly comprising the receiver of claim 7 and further comprising a door and an actuator for opening and closing said door, said actuator is responsive to an activation signal supplied from said control circuit.

13. A transmitter for remotely activating an automatic door unit having a door, an actuator for automatically opening and closing the door in response to an activation signal, and a receiver coupled to the actuator for supplying the activation signal in response to the receipt of a rolling code control signal having consecutive hopping codes that correspond to consecutive codes of a rolling code algorithm, said transmitter comprising:

a transmitting circuit for transmitting control signals; and

a control circuit for generating and encrypting a rolling code control signal using a public key, the rolling code control signal including a plurality of consecutive hopping codes the

sequence of which is determined in accordance with the same rolling code algorithm used by the receiver.

14. The transmitter of claim 13, wherein the control signals transmitted from said transmitter are RF signals.

15. The transmitter of claim 13, wherein said rolling code control signal transmitted from said transmitter is encrypted using a common predetermined manufacturer's key.

16. The transmitter of claim 15, wherein said common predetermined manufacturer's key is verified by the receiver using specified bits of a serial number as discrimination bits, the serial number being included in the rolling code signal transmitted from said transmitting circuit.

17. The transmitter of claim 13, wherein said rolling code signal transmitted from said transmitter includes a 32-bit serial number.

18. The transmitter of claim 13, wherein said rolling code control signal transmitted from said transmitter includes an encrypted portion and a non-encrypted portion, the encrypted portion changing on a predetermined basis and the non-encrypted portion remaining fixed with each transmission and including a unique serial number that is stored in a table within a receiver to which the control signal is transmitted, the table including a plurality of pairs of data including serial numbers of transmitters and rolling code information so as to decrypt the encrypted portion

of the control signal and compare a synchronization value within the decrypted data to the rolling code information stored in the table.

19. A wheelchair comprising the transmitter of claim 13 and further comprising:

a support structure for supporting at least a portion of a person's body; and

a pair of wheels rotatably mounted to said support structure,

wherein said transmitter is mounted to said support structure.

20. The wheelchair of claim 18, further including an activation mechanism coupled to said transmitter for causing said transmitter to transmit a control signal.

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